

Patent claims

- 1     1. A photodetector arrangement (1) for stray light  
2     compensation with a photodetector unit (2) for detecting  
3     and determining at least two measuring signals ( $S_1$  and  $S_2$ )  
4     and with a differential unit (6) for subtraction of the  
5     measuring signals ( $S_1$  and  $S_2$ ), wherein between the  
6     photodetector unit (2) and the differential unit (6) a  
7     compensation unit (4) is provided for compensating the  
8     constant components ( $S_{GL}$ ,  $S_{MGL}$ ) forming the basis of the  
9     respective measuring signal ( $S_1$  and  $S_2$ ).
- 1     2. A photodetector arrangement according to claim 1,  
2     wherein the compensation unit (4) comprises a number of  
3     differential modules (10) which corresponds to the number  
4     of measuring signals ( $S_1$  and  $S_2$ ).
- 1     3. A photodetector arrangement according to claim 1 or 2,  
2     wherein the compensation unit (4) comprises an amplifier  
3     unit (8).
- 1     4. A photodetector arrangement according to claim 3,  
2     wherein an amplifier unit (8) common for all measuring  
3     signals ( $S_1$  and  $S_2$ ) is provided.
- 1     5. A photodetector arrangement according to claim 3,  
2     wherein a number of amplifier units (8) is provided, which  
3     corresponds to the number of the detected measuring signals  
4     ( $S_1$  and  $S_2$ ).
- 1     6. A photodetector arrangement according to one of the  
2     claims 1 to 5, wherein the compensation unit (4) comprises  
3     a limit value module (12).

1 7. A photodetector arrangement according to one of the  
2 claims 1 to 6, wherein photodetector unit (2) is embodied  
3 as a photonic mixer detector (14).

1 8. A photodetector arrangement according to one of the  
2 claims 1 to 6, wherein the photodetector unit (2) is  
3 embodied as an active pixel sensor.

1 9. A method for stray light compensation of measuring  
2 signals ( $S_1$ ,  $S_2$ ) detected by means of a photodetector unit  
3 (2), wherein a constant component ( $S_{GL}$ ,  $S_{mGL}$ ) forming the  
4 basis of the respective measuring signal ( $S_1$ ,  $S_2$ ) is  
5 compensated before subtraction of the measuring signals ( $S_1$ ,  
6  $S_2$ ).

1 10. A method according to claim 9, wherein for the  
2 measuring signals ( $S_1$ ,  $S_2$ ) a constant component ( $S_{GL}$ ,  $S_{mGL}$ ) is  
3 determined, which commonly represents these signals.

1 11. A method according to claim 9 or 10, wherein for the  
2 constant component ( $S_{GL}$ ,  $S_{mGL}$ ) at least one constant factor is  
3 determined.

1 12. A method according to one of the claims 9 to 11,  
2 wherein the constant component ( $S_{GL}$ ,  $S_{mGL}$ ) is determined as a  
3 function of one of the measuring signals ( $S_1$ ,  $S_2$ ).

1 13. A method according to one of the claims 9 to 12,  
2 wherein the constant component ( $S_{GL}$ ,  $S_{mGL}$ ) is determined at  
3 least by means of a mean maximum modulation contrast.